PROPOSED DRAFT - 3/14/05

LISTING OF CLAIMS

This listing of the claims replaces all previous versions of the claims.

1.   (Currently Amended) A method of transmitting a downlink signal from a first communication station of a communication system, the first communication station having a smart antenna system, the method comprising:

providing a first set of sequential time intervals for the first communication station, each of the time intervals having a selected number of downlink conventional channels, and an associated conventional channel on an uplink conventional channel associated with each of the downlink conventional channels, each associated uplink conventional channel having a predefined relationship to its associated downlink conventional channel;

providing one or more further sets of sequential time intervals, each set of the one or more further sets of sequential time intervals associated with one or more other communication stations of the communication system, the further sets of sequential time intervals for communication between the other communication stations and one or more remote communication devices associated with the other communication stations;

receiving one or more uplink signals from one or more undesired remote communication devices on one or more uplink channels associated with the first downlink conventional channel;

determining a downlink smart antenna processing strategy for transmitting from the first communication station in a non-directional manner on a first downlink conventional channel, the strategy including mitigating interference towards one or more remote communication devices known to the first communication station to be undesired, in that each of the one or more undesired remote communication devices may receive one or more signals on the first downlink

PROPOSED DRAFT - 3/14/05

conventional channel during transmitting by the first communication station on the first

downlink conventional channel, **the downlink processing strategy using the received uplink**

signals as inputs to provide interference mitigation; and

transmitting a downlink signal in a non-directional manner from the first communication

station on the first downlink conventional channel using the determined downlink **processing**

strategy.

2.   (Original) A method as described in claim 1,

wherein the downlink signal is a paging signal to a first remote communication device of

the first communication station,

wherein each remote communication device associated with the first communication

station has an active state wherein it is in active communication with the first communication

station, and an idle state wherein it has established its identity but is not actively communicating,

and

wherein the first remote communication device is in an idle state during the transmitting

step of the paging signal.

3.   (Original) A method as described in claim 2, wherein the first remote communication

device includes a second plurality of antenna elements.

4.   (Original) A method as described in claim 3, wherein the first remote communication

device includes a second smart antenna system that includes the second plurality of antenna

elements.

5.   (Original) A method as described in claim 2, wherein the first remote communication

device includes a remote user terminals.

Application No.: 09/676,888   Examiner: Lee
Attorney Docket No.: 015685.P027   -3-   Art Unit:

PAGE 4/22 * RCVD AT 3/14/2005 7:23:23 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/26 * DNIS:2733175 * CSID:503 684 3245 * DURATION (mm-ss):09-04

PROPOSED DRAFT - 3/14/05

6.   (Original) A method as described in claim 5, wherein at least one remote user terminal is mobile.

7.   (Original) A method as described in claim 1,

wherein the downlink signal is a broadcast signal to one or more remote communication devices of the first communication station, and

wherein the downlink strategy determining step determines a downlink smart antenna processing strategy for transmitting the downlink signal in a substantially omnidirectional manner except for simultaneously mitigating interference towards the undesired remote communication devices.

8.   (Original) A method as described in claim 1, wherein the first communication station comprises a cellular base station.

9.   (Original) A method as described in claim 1, wherein the first communication station is coupled to an external data and/or voice network.

10.   (Original) A method as described in claim 9, wherein the external network includes the Internet.

11.   (Canceled)

12.   (Currently Amended) A method as described in ~~claim 11~~ claim 1,

wherein the communication system includes one or more other communication stations, **each associated with one or more of the further sets of sequential time intervals,** and

. wherein the one or more undesired remote communication devices include a remote communication device associated with the one or more other communication stations.

Application No.: 09/676,888   Examiner: Lee
Attorney Docket No.: 015685.P027   -4-   Art Unit:

PAGE 5/22 * RCVD AT 3/14/2005 7:23:23 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/26 * DNIS:2733175 * CSID:503 684 3245 * DURATION (mm-ss):09-04

PROPOSED DRAFT - 3/14/05

13.   (Currently Amended) A method as described in claim 12,

wherein each of the downlink conventional channels of the first and of the further sets of

time intervals are associated with one or more of the uplink conventional channels of the same

respective set of time intervals, such that any remote communication device receiving data from

its associated communication station during a first downlink conventional channel has first

transmitted data to its associated communication station on an associated uplink conventional

channel of its set of sequential time intervals,

wherein the first communication station knows the association of a downlink

conventional channel and its one or more associated uplink conventional channels of the further

sets,

wherein ~~the~~ receiving ~~of~~ the one or more uplink signals ~~is~~ **includes receiving** on uplink

channels known to the first communication station to be the uplink channel associated with the

first downlink channel on which the downlink message is to be transmitted, and

wherein ~~the~~ receiving ~~of~~ the one or more uplink signals ~~is~~ includes receiving at the first

communication station.

14.   (Currently Amended) A method as described in ~~claim 11~~ **claim 1**,

wherein each of the downlink conventional channels of the first and of the further sets of

time intervals are associated with one or more of the uplink conventional channels of the same

respective set of time intervals, such that any remote communication device receiving data from

its associated communication device during a first downlink conventional channel has first

transmitted data to its communication device on an associated uplink conventional channel of its

set of sequential time intervals,

Application No.: 09/676,888   Examiner: Lee
Attorney Docket No.: 015685.P027   -5-   Art Unit:

PAGE 6/22 * RCVD AT 3/14/2005 7:23:23 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/26 * DNIS:2733175 * CSID:503 684 3245 * DURATION (mm-ss):09-04

PROPOSED DRAFT - 3/14/05

wherein ~~the~~ receiving ~~step is~~ **the one ore more uplink signals includes receiving** on one or more associated uplink channels known to the first communication station to be associated with the first downlink channel, and

wherein receiving ~~step~~ **the one ore more uplink signals** includes receiving the one or more uplink signals from the one or more undesired remote communication devices at the first communication station.

15.   (Original) A method as described in claim 14, wherein each of the selected number of downlink conventional channels is a distinct downlink data transfer period in the intervals of the first and any further sets, and wherein each associated uplink conventional channel is a distinct associated data transfer period of the intervals of the respective set of sequential time intervals, the associated data transfer periods being for uplink communication.

16.   (Currently Amended) A method as described in ~~claim 11~~ **claim 1**, further comprising:

forming side information about the undesired remote communication devices from the received one or more uplink signals;

storing the side information in a database in the first communication station; and

retrieving the side information from the database,

wherein ~~the~~ **determining the** downlink **processing** strategy ~~determining step~~ includes using the retrieved side information **as inputs**.

17.   (Currently Amended) A method as described in claim 16,

wherein ~~the~~ receiving ~~of~~ the one or more uplink signals ~~is~~ **comprises receiving** at the first communication station.

PROPOSED DRAFT - 3/14/05

18. (Currently Amended) A method as described in claim 16,

wherein the communication system includes at least one other communication station and an inter-communication-device communication mechanism,

wherein ~~the~~ receiving ~~of~~ the one or more uplink signals includes receiving at the one or more other communication stations,

wherein ~~the~~ forming __the__ side information ~~step~~ for each undesired remote communication device occurs at the other communication station receiving the signal from said each undesired remote communication device, and

wherein the side information is communicated to the first communication station using the ~~inter-base-station~~ __inter-communication-device__ communication mechanism.

19. (Currently Amended) A method as described in ~~claim 11~~ __claim 1__, wherein the first communication station includes at least a first remote communication device and a second remote communication device,

wherein ~~the received uplink signal~~ __receiving the one or more uplink signals__ includes receiving a signal at the first communication station transmitted by the second remote communication device to the first communication station on a first associated uplink conventional channel associated with the first downlink conventional channel,

wherein ~~the~~ __determining the__ downlink __processing__ strategy ~~determining step uses__ __includes using__ the signal received __from the__ second remote communication device __as an input to determine the downlink processing strategy,__ and the determined downlink ~~smart antenna__ __processing__ strategy ~~is__ to simultaneously

(i) transmit data to the second remote communication device in a directional manner, and

(ii) transmit a downlink message to the first remote communication device in a manner that

Application No.: 09/676,888   Examiner: Lee
Attorney Docket No.: 015685.P027   -7-   Art Unit:

PAGE 8/22 * RCVD AT 3/14/2005 7:23:23 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/26 * DNIS:2733175 * CSID:503 684 3245 * DURATION (mm-ss):09-04

PROPOSED DRAFT - 3/14/05

mitigates interference towards the second remote communication device on the first downlink

conventional channel, and

wherein ~~the~~ transmitting ~~step~~ **the downlink signal** includes simultaneously transmitting

data to the second remote communication device in a directional manner and the downlink

message to the first remote communication device in a substantially non-directional manner that

includes mitigating interference towards the second remote communication device.

20.   **(Currently Amended)** A method as described in claim 19,

wherein each remote communication device has ~~an active~~ a state ~~wherein it is in~~ **of**

active communication with its **associated** communication ~~device~~ **station,** and an idle state

wherein ~~it~~ **each remote communication device** has established its identity but is not actively

communicating with its communication ~~device~~ **station,** and

wherein the first remote communication device is in the idle state.

21.   **(Currently Amended)** A method as described in claim 19,

wherein each of the downlink conventional channels is associated with one or more of the

associated uplink conventional channels, such that any remote communication device receiving

data from its communication device during a first downlink conventional channel has ~~first~~

transmitted data to its communication device on an associated uplink conventional channel;

wherein ~~said~~ receiving ~~step~~ **the one or more uplink signals** includes receiving one or

more signals on the first associated uplink conventional channel, including receiving the signal

transmitted by the second remote communication ~~device~~ **device;**

wherein ~~the~~ **determining the** downlink **processing** strategy ~~determining uses~~ **includes**

using the one or more ~~received~~ uplink signals ~~received and~~ **received,** the determined strategy ~~is~~

Application No.: 09/676,888   Examiner: Lee
Attorney Docket No.: 015685.P027   -8-   Art Unit:

PAGE 9/22 * RCVD AT 3/14/2005 7:23:23 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/26 * DNIS:2733175 * CSID:503 684 3245 * DURATION (mm-ss):09-04

PROPOSED DRAFT - 3/14/05

to transmit on a downlink conventional channel associated with the first uplink conventional

channel; **and**

wherein ~~the~~ simultaneously transmitting ~~step is~~ **the data to the second remote**

communication device includes transmitting on a downlink conventional channel associated

with and occurring later than the first associated uplink conventional ~~channel; and~~ **channel.**

~~wherein the first communication station remote communication device is not~~

~~transmitting to the first communication station on the first uplink conventional channel~~

~~during the receiving step.~~

22.   (Currently Amended) A method as described in ~~claim 11~~ **claim 1**, wherein **the**

~~determined~~ **determining the** downlink **processing** strategy includes **generating a strategy for**

transmitting the downlink signal in a direction wherefrom there were no substantial signals

received on the uplink on the first uplink conventional channel in the receiving step.

23.   (Currently Amended) A method as described in claim 22, wherein ~~the determined~~

determining the downlink **processing** strategy ~~is determined from the~~ **includes compensating**

for a received signal covariance of the signals received in the receiving step.

24.   (Currently Amended) A method as described in claim 19, wherein ~~the determined~~

determining the downlink **processing** strategy includes **generating a strategy for** transmitting

the downlink message to the first remote communication device in a direction wherefrom there

were no substantial signals received on the uplink on the first associated uplink conventional

channel in the receiving step.

25.   (Currently Amended) A method as described in ~~claim 28~~ **claim 24**, wherein **the**

~~determined~~ **determining the** downlink **processing** strategy includes **generating a strategy for**

transmitting the downlink message to the first remote communication ~~device and the~~ **device,**

Application No.: 09/676,888   Examiner: Lee
Attorney Docket No.: 015685.P027   -9-   Art Unit:

PAGE 10/22 * RCVD AT 3/14/2005 7:23:23 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/28 * DNIS:2733175 * CSID:503 684 3245 * DURATION (mm-ss):09-04

PROPOSED DRAFT - 3/14/05

~~determining the downlink processing~~ strategy ~~determining uses~~ **further including using** a

criterion from the received signal covariance of the signals received in the receiving step.

26.   (**Currently Amended**) A method as described in claim 19, wherein ~~the determined~~

determining the downlink **processing** strategy includes **generating a strategy for** transmitting

the downlink message to the first remote communication ~~device and the~~ **device, determining**

the downlink processing strategy ~~determining uses~~ **further including using** a criterion that

includes directing a null towards the second remote communication device.

27.   (**Original**) A method as described in claim 20, wherein each of the selected number of

downlink conventional channels is a distinct downlink data transfer period in the intervals of the

set, and wherein each associated uplink conventional channel is a distinct associated data transfer

period of the intervals of the set, the associated data transfer periods being for uplink

communication.

28-30. (Canceled)

31.   (**Currently Amended**) A method as described in claim 20,

~~wherein the communication system includes a set of one or more other~~

~~communication stations each having one or more remote communication devices,~~

wherein the provided further sets of sequential time intervals ~~includes~~ **include** a set of

sequential time intervals for each other communication station;

wherein each downlink conventional channel of the further sets of sequential time

intervals is associated with one or more of the associated uplink conventional channels,

wherein each of the further sets of sequential time intervals is coordinated with the first

set of sequential time intervals such that the first communication station knows the association

Application No.: 09/676,888
Attorney Docket No.: 015685.P027   -10-   Examiner: Lee
                                                                           Art Unit:

PROPOSED DRAFT - 3/14/05

between a downlink conventional channel and an uplink conventional channel for each of the further sets,

wherein ~~the~~ receiving ~~step~~ **the one or more uplink signals** includes receiving signals at the first communication station on one or more associated uplink conventional channels of the further sets of sequential time intervals associated ~~with~~ **with,** and temporally ~~preceding~~ **preceding,** the downlink conventional channel of the further sets of sequential time intervals wherein the downlink transmitting step is to occur, and

wherein ~~the determined~~ **determining the** downlink **processing** strategy includes **generating a strategy for** transmitting the paging message to the first remote communication device in a manner that mitigates interference towards the second remote communication device and towards any remote communication devices of the other communication stations wherefrom signals are received on the associated uplink channels in the receiving step.

32.   (Currently Amended) A first communication station comprising:

a smart antenna system to communicate with at least one remote communication device using a smart antenna processing strategy, the smart antenna system including a plurality of antenna elements;

an uplink reception unit, coupled to the antenna element plurality to **provide an uplink conventional channel associated with each of a plurality of downlink conventional channels, each uplink conventional channel having a predefined relationship to its associated downlink conventional channel, and** receive one or more uplink signals from one or more undesired remote communication devices **on one or more uplink conventional channels associated with a first downlink conventional channel;**

PROPOSED DRAFT - 3/14/05

a processor, coupled to the uplink reception unit, the processor to determine a downlink

smart antenna processing strategy for transmitting from the first communication station in a non-

directional manner, the strategy determining using the one or more received uplink signals, the

strategy including mitigating interference towards one or more remote communication devices

known to be undesired, in that each of the one or more undesired remote communication devices

may receive one or more signals during transmitting by the first communication station on the

same conventional channel; and

a downlink transmission unit, coupled to the antenna element plurality and to the

processor, to provide **the** first downlink conventional channel to transmit a downlink signal in a

non-directional manner from the first communication station using the determined downlink

strategy, provide a selected number of downlink conventional channels of a first set of sequential

time intervals for the first communication station, the first set including the first downlink

conventional channel, **and provide one or more additional sets of sequential time intervals,**

each associated with one or more other communication stations for communication

between the other communication stations and one or more remote communication devices

associated with the other communication stations.

33. · **(Canceled)**

34.   (Original) A first communication station as described in claim 32,

wherein the downlink signal is a paging signal to a first remote communication device of

the first communication station,

wherein each remote communication device associated with the first communication

station has an active state wherein it is in active communication with the first communication

Application No.: 09/676,888
Attorney Docket No.: 015685.P027   -12-   Examiner: Lee
                                                                                    Art Unit:

PAGE 13/22 * RCVD AT 3/14/2005 7:23:23 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/26 * DNIS:2733175 * CSID:503 684 3245 * DURATION (mm-ss):09-04

PROPOSED DRAFT - 3/14/05

station, and an idle state wherein it has established its identity but is not actively communicating,
and

wherein the first remote communication device is in an idle state during the transmitting
step of the paging signal.

35.   (Original) A first communication station as described in claim 32,

wherein the downlink signal is a broadcast signal to one or more remote communication
devices of the first communication station, and

wherein processor determines the downlink strategy for transmitting the downlink signal
in a substantially omnidirectional manner except for simultaneously mitigating interference
towards the undesired remote communication devices.

36.   (Original) A first communication station as described in claim 32, wherein the first
communication station is coupled to an external data and/or voice network.

37.   (Original) A first communication station as described in claim 36, wherein the external
data and/or voice network includes the Internet.

38.   (Original) A first communication station as described in claim 32, wherein the remote
communication devices include a first remote user terminal.

39.   (Original) A first communication station as described in claim 38, wherein the first
remote user terminal is mobile.

40.   (Original) A first communication station as described in claim 32, wherein the downlink
data includes voice.

41.   (Original) A first communication station as described in claim 32, wherein the downlink
data includes information exchanged via the Internet.

Application No.: 09/676,888   Examiner: Lee
Attorney Docket No.: 015685.P027   -13-   Art Unit:

PAGE 14/22 * RCVD AT 3/14/2005 7:23:23 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/26 * DNIS:2733175 * CSID:503 684 3245 * DURATION (mm-ss):09-04

PROPOSED DRAFT - 3/14/05

42.   (Original) A machine-readable medium having stored thereon information representing a

set of machine-executable instructions, that, when executed by a machine, cause the machine to

perform a method of transmitting a downlink signal from a first communication station of a

communication system, the first communication station having a smart antenna system, the

method comprising:

providing a first set of sequential time intervals for the first communication station,

each of the time intervals having a selected number of downlink conventional channels, and

an associated conventional channel on an uplink conventional channel associated with each

of the downlink conventional channels, each associated uplink conventional channel having

a predefined relationship to its associated downlink conventional channel;

providing one or more further sets of sequential time intervals, each set of the one or

more further sets of sequential time intervals associated with one or more other

communication stations of the communication system, the further sets of sequential time

intervals for communication between the other communication stations and one or more

remote communication devices associated with the other communication stations;

receiving one or more uplink signals from one or more undesired remote

communication devices on one or more uplink channels associated with the first downlink

conventional channel;

determining a downlink smart antenna processing strategy for transmitting from the first

communication station in a non-directional manner on a first downlink conventional channel, the

strategy including mitigating interference towards one or more remote communication devices

known to the first communication station to be undesired, in that each of the one or more

undesired remote communication devices may receive one or more signals on the first downlink

Application No.: 09/676,888   Examiner: Lee
Attorney Docket No.: 015685.P027   -14-   Art Unit:

PAGE 15/22 * RCVD AT 3/14/2005 7:23:23 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/28 * DNIS:2733175 * CSID:503 684 3245 * DURATION (mm-ss):09-04

PROPOSED DRAFT - 3/14/05

conventional channel during transmitting by the first communication station on the first

downlink conventional channel, **the downlink processing strategy using the received uplink**

signals as inputs to provide interference mitigation; and

transmitting a downlink signal in a non-directional manner from the first communication

station on the first downlink conventional channel using the determined downlink **processing**

~~strategy,~~ **strategy.**

43. (Original) A machine-readable medium as described in claim 42,

wherein the downlink signal is a paging signal to a first remote communication device of

the first communication station,

wherein each remote communication device associated with the first communication

station has an active state wherein it is in active communication with the first communication

station, and an idle state wherein it has established its identity but is not actively communicating,

and

wherein the first remote communication device is in an idle state during the transmitting

step of the paging signal.

44. (Original) A machine-readable medium as described in claim 43, wherein the first remote

communication device includes a second plurality of antenna elements.

45. (Original) A machine-readable medium as described in claim 44, wherein the first remote

communication device includes a second smart antenna system that includes the second plurality

of antenna elements.

46. (Original) A machine-readable medium as described in claim 43, wherein the remote

communication devices include a first remote user terminal.

Application No.: 09/676,888   Examiner: Lee
Attorney Docket No.: 015685.P027   -15-   Art Unit:

PAGE 16/22 * RCVD AT 3/14/2005 7:23:23 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/26 * DNIS:2733175 * CSID:503 684 3245 * DURATION (mm-ss):09-04

PROPOSED DRAFT - 3/14/05

47. (Original) A machine-readable medium as described in claim 46, wherein the first remote user terminal is mobile.

48. (Original) A machine-readable medium as described in claim 42,

wherein the downlink signal is a broadcast signal to one or more remote communication devices of the first communication station, and

wherein the downlink strategy determining step determines a downlink smart antenna processing strategy for transmitting the downlink signal in a substantially omnidirectional manner except for simultaneously mitigating interference towards the undesired remote communication devices.

49. (Original) A machine-readable medium as described in claim 42, wherein the first communication station comprises a cellular base station.

50. (Original) A machine-readable medium as described in claim 42, wherein the first communication station is coupled to an external data and/or voice network.

51. (Original) A machine-readable medium as described in claim 50, wherein the external network includes the Internet.

52. **(Canceled)**

53. **(Currently Amended)** A method of transmitting a downlink signal in a non-directional manner from a first communication station having a smart antenna system on a first downlink conventional channel, while communicating with one or more other remote communication devices on the same first downlink conventional channel, the method comprising:

receiving one or more uplink signals from the other remote communication devices;

determining a downlink smart antenna processing strategy using the received uplink signals to transmit from the first communication station in a non-directional manner on a first

Application No.: 09/676,888
Attorney Docket No.: 015685.P027   -16-   Examiner: Lee
                                                                            Art Unit:

PAGE 17/22 * RCVD AT 3/14/2005 7:23:23 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/26 * DNIS:2733175 * CSID:503 684 3245 * DURATION (mm-ss):09-04

PROPOSED DRAFT - 3/14/05

downlink conventional channel to transmit to the one or more other remote communication

devices on the same first downlink conventional channel; ~~and~~

transmitting a first downlink signal in a non-directional manner from the first

communication station and one or more other downlink signals to the one or more other remote

communication devices on the first downlink conventional channel using the determined

downlink ~~strategy.~~ **strategy;**

providing a set of sequential time intervals for the first communication station, each of

the time intervals having a selected number of downlink conventional channels including the

first downlink conventional channel, and an associated conventional channel on the uplink

associated with each of the downlink conventional channels, each associated uplink conventional

channel having a predefined relationship to its associated the downlink conventional ~~channel,~~

channel; and

providing a set of further sequential time intervals associated with a different

communication station, each of the further time intervals having a selected number of

downlink conventional channels associated with the different communication station;

wherein ~~the~~ receiving **the one or more uplink signals** includes receiving on a first

associated uplink channel associated with the first downlink conventional channel a second

uplink signal from the second remote communication device transmitted at the first

communication station, and

wherein ~~the~~ **determining the downlink processing** strategy ~~determining uses~~ **includes**

using the received signals **as an input** to determine a downlink ~~smart antenna~~ **processing**

strategy to simultaneously

Application No.: 09/676,888   Examiner: Lee
Attorney Docket No.: 015685.P027   -17-   Art Unit

PAGE 18/22 * RCVD AT 3/14/2005 7:23:23 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/26 * DNIS:2733175 * CSID:503 684 3245 * DURATION (mm-ss):09-04

PROPOSED DRAFT - 3/14/05

(i) transmit downlink data to the second remote communication device in a directional

manner, and (ii) transmit the first downlink signal to the first remote communication device in a

manner that mitigates interference towards the second remote communication device on the first

downlink conventional channel.

54. (Original) A method as described in claim 53, wherein the first communication station

comprises a cellular base station.

55. (Original) A method as described in claim 53, wherein the first remote communication

device includes a second plurality of antenna elements.

56. (Original) A method as described in claim 55, wherein the first remote communication

device includes a second smart antenna system that includes the second plurality of antenna

elements.

57. (Original) A method as described in claim 53, wherein the first communication station is

coupled to an external data and/or voice network.

58. (Original) A method as described in claim 53, wherein the one or more other remote

communication device include a first remote user terminal.

59. (Original) A method as described in claim 58, wherein the first remote user terminal is

mobile.

60. (Original) A method as described in claim 53, wherein the first downlink signal includes

voice.

61. (Original) A method as described in claim 53, wherein the first downlink signal includes

information exchanged via the Internet.

62. **(Canceled)**

Application No.: 09/676,888   Examiner: Lee
Attorney Docket No.: 015685.P027   -18-   Art Unit:

PAGE 19/22 * RCVD AT 3/14/2005 7:23:23 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/26 * DNIS:2733175 * CSID:503 684 3245 * DURATION (mm-ss):09-04

PROPOSED DRAFT - 3/14/05

63.   (Currently Amended) A method as described in ~~claim 62~~ claim 53,

wherein each remote communication device has ~~an active~~ a state ~~wherein it is in~~ of

active communication with its **associated** communication ~~device~~ **station**, and an idle state

wherein ~~it~~ **each remote communication device** has established its identity but is not actively

communicating with its communication ~~device~~ **station**, and

wherein the first remote communication device is in the idle state.

64.   (Currently Amended) A method as described in ~~claim 62~~ claim 53,

wherein each of the downlink conventional channels is associated with one or more of the

uplink conventional channels, such that any remote communication device receiving data from

its communication device during a first downlink conventional channel has ~~first~~ transmitted data

to its communication device on an associated uplink conventional channel; **and**

wherein ~~the~~ **determining the** downlink **processing** strategy ~~determining uses~~ **includes**

using the one or more ~~received~~ uplink signals ~~and~~ **received,** the determined strategy ~~is~~ for

transmitting on a ~~a~~ downlink conventional channel associated with and occurring later than the

first associated uplink conventional ~~channel; and~~ **channel.**

~~wherein the transmitting step is on a downlink conventional channel associated with~~

~~the first associated uplink conventional channel; and~~

~~wherein the first remote communication device is not transmitting to the first~~

~~communication station on the first uplink conventional channel during the receiving step.~~

65.   (Original) A method as described in claim 63, wherein each of the selected number of

downlink conventional channels is a distinct downlink data transfer period in the intervals of the

set, and wherein each associated uplink conventional channel is a distinct associated data transfer

Application No.: 09/676,888   Examiner: Lee
Attorney Docket No.: 015685.P027   -19-   Art Unit:

PAGE 20/22 * RCVD AT 3/14/2005 7:23:23 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/26 * DNIS:2733175 * CSID:503 684 3245 * DURATION (mm-ss):09-04

PROPOSED DRAFT - 3/14/05

period of the intervals of the set, the associated data transfer periods being for uplink

communication.

66.   (Currently Amended) A method as described in claim 63, wherein ~~the determined smart antenna strategy~~ <u>determining the</u> downlink <u>processing</u> strategy ~~is~~ <u>includes generating a strategy</u> to transmit the first downlink signal in a direction wherefrom there were no

substantial signals received on the uplink on the first associated uplink conventional channel in

the receiving step.

67.   (Currently Amended) A method as described in claim 66, wherein <u>determining</u> the

<u>downlink processing</u> strategy ~~determining uses~~ includes <u>using</u> a criterion that is determined

from the received signal covariance of the signals received in receiving step.

68.   (Currently Amended) A method as described in claim 63, wherein <u>determining</u> the

~~determined smart antenna~~ <u>downlink processing</u> strategy includes <u>generating a strategy</u> to

transmit the paging signal according to a criterion that includes directing nulls towards the

second remote communication device.

69-91. (Canceled)

Application No.: 09/676,888   Examiner: Lee
Attorney Docket No.: 015685.P027   -20-   Art Unit:

PAGE 21/22 * RCVD AT 3/14/2005 7:23:23 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/26 * DNIS:2733175 * CSID:503 684 3245 * DURATION (mm-ss):09-04